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using ATM via satellite***Lutas, D.; Linge, N.; Robinson, N.; Ball, E.; Ashworth, J.; Gibbs, D.*Computers and Digital Techniques, IEE Proceedings- , Volume: 143 Issue: 1  
1996

Page(s): 69 -78

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL****2 An experimental study of video traffic on an Ethernet local area ne***Gupta, S.; Williamson, C.L.*Global Telecommunications Conference, 1994. GLOBECOM '94. Communicat  
Global Bridge., IEEE , 1994

Page(s): 558 -562 vol.1

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## Statistical real-time communication over Ethernet for manufacturing automation systems

*- Seok-Kyu Kweon; Shin, K.G.; Zin Zheng*

Dept. of Electr. Eng. &amp; Comput. Sci., Michigan Univ., Ann Arbor, MI, USA

***This paper appears in: Real-Time Technology and Applications Symposium Proceedings of the Fifth IEEE***

On page(s): 192 - 202

2-4 June 1999

1999

ISBN: 0-7695-0194-X

Number of Pages: xi+293

References Cited: 10

INSPEC Accession Number: 6325305

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### Abstract:

In order to realize real time communication over Ethernet or fast Ethernet, on able to bound the medium access time within an acceptable limit. The multiple nature of an Ethernet makes it impossible to guarantee a deterministic medium time to individual stations. However one can bound the medium access time s by limiting the packet arrival rate at the medium access control (MAC) layer. W focusing on automated manufacturing systems as the main application, the pa considers the connection admission control (CAC) problem for statistically bou medium access time of Ethernet. Specifically, a packet is guaranteed to have access time smaller than a predefined bound with a certain probability if the instantaneous packet arrival rate is kept below a certain threshold. Through a we first derived such a threshold. In order to keep the packet arrival rate unde given threshold, we employ a traffic smoother which: (i) is located between th transport layer and the Ethernet datalink layer and (ii) smooths packet stream the two layers. The implementation of this traffic smoother requires only a mi change in the OS kernel without any modification to the current standard of E MAC protocol or TCP or UDP/IP stack. In order to solve the CAC problem, we d probability of transmitting a packet successfully upon each trial by modeling t protocol, 1-persistent CSMA/CD, and the collision resolution protocol, Binary E Backoff, of Ethernet. We implemented a traffic smoother on the Linux OS, dem the effectiveness of our approach in providing real time communication over E

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### Index Terms:

local area networks; statistical real time communication; manufacturing autom systems; fast Ethernet; medium access time; deterministic medium access tim arrival rate; medium access control layer; automated manufacturing systems; connection admission control; instantaneous packet arrival rate; traffic smoot transport layer; Ethernet datalink layer; packet streams; OS kernel; Ethernet protocol; TCP; UDP/IP stack; CAC problem; probability; MAC protocol; 1-persi CSMA/CD; collision resolution protocol; Binary Exponential Backoff; Linux OS

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Real-Time Technology and Applications Symposium, 1999. Proceedings of the IEEE, 1999

Page(s): 192 -202

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****2 Built-in self-test of the Macrolan chip***Illman, R.; Clarke, S.*

IEEE Design &amp; Test of Computers, Volume: 7 Issue: 2, April 1990

Page(s): 29 -40

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL****3 Built in self test of the Macrolan chip***Illman, R.; Clarke, S.*

Test Conference, 1989. Proceedings. Meeting the Tests of Time., International

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IEEE Network , Volume: 13 Issue: 4 , July-Aug. 1999

Page(s): 30 -38

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL****2 Statistical real-time communication over Ethernet for manufacturing automation systems***Seok-Kyu Kweon; Shin, K.G.; Zin Zheng*

Real-Time Technology and Applications Symposium, 1999. Proceedings of the IEEE , 1999

Page(s): 192 -202

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****3 A 3.3 V analog adaptive line-equalizer for fast Ethernet data communications***Babanezhad, J.N.*

Custom Integrated Circuits Conference, 1998. Proceedings of the IEEE 1998

Page(s): 343 -346

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****4 ATM and fast Ethernet network interfaces for user-level communications***Welsh, M.; Basu, A.; von Eicken, T.*

High-Performance Computer Architecture, 1997., Third International Symposium 1997

Page(s): 332 -342

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF**

**5 An error control scheme for Ethernet-based real-time communicati***Junghoon Lee; Seungjun Park*

Real-Time Computing Systems and Applications, 1996. Proceedings., Third International Workshop on , 1996

Page(s): 214 -219

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****6 A bandwidth reallocation scheme for Ethernet-based real-time communication***Junghoon Lee; Heonshik Shin*

Real-Time Computing Systems and Applications, 1995. Proceedings., Second International Workshop on , 1995

Page(s): 28 -33

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****7 Performance of VBR Packet Video Communications on an Ethernet Trace-Driven Simulation Study***Edwards, F.; Schulz, M.*

Computers and Communications, 1994., IEEE 13th Annual International Photo Conference on , April 12-15 1994

Page(s): 427

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****8 Introducing video communications into fiber optic Ethernet***Dianguang, M.; Yulin, L.*

Networks, 1993. International Conference on Information Engineering '93. 'Communications and Networks for the Year 2000', Proceedings of IEEE Singapore International Conference on , Volume: 1 , 1993

Page(s): 67 -70 vol.1

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****9 Measurement of packet generation and communication characteristics of Ethernet system***Morino, Y.; Takahara, M.*

Singapore ICCS/ISITA '92. 'Communications on the Move' , 1990

Page(s): 958 -962 vol.2

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF****10 A cryptographic protocol to obtain secure communications in extended Ethernet environment***Simon, X.; Melus, J.L.; Recacha, F.*

Local Computer Networks, 1992. Proceedings., 17th Conference on , 1992

Page(s): 254 -261

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF**

**11 Use of Ethernet and TCP/IP socket communications library routines for data acquisition and control in the LEP RF system**

*Ciapala, E.; Collier, P.; Lienard, P.*

Particle Accelerator Conference, 1991. Accelerator Science and Technology., Conference Record of the 1991 IEEE , 1991

Page(s): 1490 -1492 vol.3

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF**

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**1 Specification and design of an ethernet interface soft IP***Fragoso, J.; Costa, E.; Rochol, J.; Bampi, S.; Reis, R.*Integrated Circuits and Systems Design, 1999. Proceedings. XII Symposium  
Page(s): 216 -219[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF**

---

**2 Adaptive rate subscriber loop data transmission using Ethernet int***Takaya, N.; Dodds, D.E.; McCrosky, C.D.*Circuits and Systems, 1996., IEEE Asia Pacific Conference on , 1996  
Page(s): 207 -210[\[Abstract\]](#) [\[PDF Full-Text\]](#) **CNF**

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Very Large Scale Integration (VLSI) Systems, IEEE Transactions on , Volume 2 , June 1999

Page(s): 277 -280

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL****2 SIGMA: a VLSI systolic array implementation of a Galois field GF(2) based multiplication and division algorithm***Kovac, M.; Ranganathan, N.; Varanasi, M.*

Very Large Scale Integration (VLSI) Systems, IEEE Transactions on , Volume 1 , March 1993

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[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL**

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Medium Access Control (MAC) And Physical Layer (PHY) Sp**

IEEE Std 802.11b-1999 , 2000

Page(s): i -90

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **STD**

---

**2 Worst case equalizer for noncoherent HIPERLAN receivers***Benvenuto, N.; Bisaglia, P.; Salloum, A.; Tomba, L.*

Communications, IEEE Transactions on , Volume: 48 Issue: 1, Jan. 2000

Page(s): 28 -36

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL**

---

**3 Advanced frequency hopping modulation for spread spectrum WLA***Glisic, S.; Nikolic, Z.; Milosevic, N.; Pouttu, A.*

Selected Areas in Communications, IEEE Journal on , Volume: 18 Issue: 1 , J

Page(s): 16 -29

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL**

---

**4 Part 11: wireless LAN medium access control (MAC) and physical la  
(PHY) specifications: high-speed physical layer in the 5 GHz band**

IEEE Std 802.11a-1999 , 1999

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**5 IEEE standards for local and metropolitan area networks: supplem  
Standard for Interoperable LAN/MAN Security (SILS) - security arch  
framework**

IEEE Std 802.10a-1999 , 30 July 1999

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **STD**

**6 Information technology - telecommunications and information exc between systems - local and metropolitan area networks - specific requirements. Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) access method and physical**

IEEE Std 802.3ab-1999 , 26 July 1999

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **STD**

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**7 Information technology - telecommunications and information exc between systems - local and metropolitan area networks - specific requirements. Part 11: wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) specifications**

ISO/IEC 8802-11; ANSI/IEEE Std 802.11, 1999 edn , 20 Aug. 1999

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **STD**

---

**8 IEEE standards for local and metropolitan area networks: virtual local area networks**

IEEE Std 802.1Q-1998 , 8 March 1999

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **STD**

---

**9 The Iceberg project: defining the IP and telecom intersection**

*Raman, B.; Wang, H.J.; Shih, J.; Joseph, A.D.; Katz, R.H.*

IT Professional , Volume: 1 Issue: 6 , Nov.-Dec. 1999

Page(s): 38 -45

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL**

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**10 Characterization of underfill materials for functional solder bump chips on board applications**

*Lan, J.H.; Chang, C.*

Components and Packaging Technologies, IEEE Transactions on [see also Co Packaging and Manufacturing Technology, Part A: Packaging Technologies, I Transactions on] , Volume: 22 Issue: 1 , March 1999

Page(s): 111 -119

[\[Abstract\]](#) [\[HTML Full-text\]](#) [\[PDF Full-Text\]](#) **JNL**

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**11 Improved WWW multimedia transmission performance in HTTP/T ATM networks**

*Ruay-Shiung Chang; Chin-Dong Wang*

Multimedia, IEEE Transactions on , Volume: 1 Issue: 3 , Sept. 1999

Page(s): 278 -290

[\[Abstract\]](#) [\[PDF Full-Text\]](#) **JNL**

---

**12 A low-power phase-splitting adaptive equalizer for high bit-rate communication systems**

*Hedge, R.; Shanbhag, N.R.*

Signal Processing, IEEE Transactions on , Volume: 47 Issue: 3, March 1999

Page(s): 911 -915

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**13 W\* effect considered harmful [Internet WAP]**

*Khare, R.*

IEEE Internet Computing , Volume: 3 Issue: 4 , July-Aug. 1999

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**14 At the core of IP networks: link-state routing protocols**

*Metz, C.*

IEEE Internet Computing , Volume: 3 Issue: 5 , Sept.-Oct. 1999

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**15 A simple multicast configuration with classical IP over ATM: perfo comparison with FDDI and ATM LAN emulation**

*Kim, J.H.; Thompson, M.Y.; Ray, S.; Butler, R.C., II.*

IEEE Communications Letters , Volume: 3 Issue: 7, July 1999

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*This paper appears in: IEEE Std 802.11b-1999*

On page(s): i - 90

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ISBN: 0-7381-1811-7

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### Abstract:

Changes and additions to IEEE Std 802.11, 1999 Edition are provided to support higher rate physical layer (PHY) for operation in the 2.4 GHz band.

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2.4 GHz, high speed, local area network (LAN), radio frequency (RF), wireless

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## Instruction-Driven Wake-Up Mechanisms for Snoopy TAP Controller

**Debashis Bhattacharya**  
*Texas Instruments Incorporated*

The issue of handling multiple embedded 1149.1-compliant TAP controllers (as part of embedded cores) in a 1149.1-compliant IC, has received significant attention, in recent times. The Hierarchical TAP (HTAP) architecture, previously developed by this author, provides a systematic solution to this problem, by allowing multiple embedded TAP's to share one set of 1149.1-specified test pins on the IC. The HTAP architecture requires an augmented version of the 1149.1-specified TAP - designated the *Snoopy TAP (SNTAP)* - in the top-level of the design hierarchy, that handles 1149.1-specified TAP functions for the non-TAP'ed parts of the IC, and performs arbitration of the shared IC pins between multiple embedded TAPs. Previously, a mechanism was developed to *wake up the SNTAP* using a simple string of constant values (0 or 1) on the TMS input. Two new mechanisms to wake up SNTAP by means of an instruction scanned in, are described in this report. Both mechanisms allow embedded 1149.1-compliant TAP's to be used in a hierarchical design, as is, without any hardware modification. Moreover, both mechanisms enable reuse of the test program from the embedded TAP'ed cores, without any modification. The instructions to wake up the SNTAP - to switch access to different TAP-ed cores - can be simply inserted in-between the test programs for the embedded cores.

**Proceedings of the 1999 17TH IEEE VLSI Test Symposium**  
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## Hardware monitoring of a multiprocessor system

*- Liu, A.-C.; Parthasarathi, R.*

Feng Chia Univ., Taichung, Taiwan

*This paper appears in: IEEE Micro*

On page(s): 44 - 51

Oct. 1989

Volume: 9 Issue: 5

ISSN: 0272-1732

References Cited: 8

CODEN: IEMIDZ

INSPEC Accession Number: 3547387

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### Abstract:

The Testbed for Distributed Processing, or Ted, consists of Intel Corp.'s iSBC 8 board computers (SBCs) organized into groups or clusters. Each cluster consists of several SBCs that communicate via a shared memory. Intercluster communication occurs through an Ethernet interface. A hardware monitor designed and implemented to handle the monitoring activities within a cluster in the Ted system is described. Specified patterns and don't-care masks, the system can detect accesses to specific data, addresses, or blocks of addresses. This function helps monitor events such as access or usage of a memory location or a group of mailbox addresses. It also determines the amount of time consumed by the performance of specific operations.

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### Index Terms:

hardware monitoring; intercluster communication; multiprocessor system; Testbed for Distributed Processing; Ted; iSBC 8086 single board computers; Ethernet interface; addresses; blocks of addresses; memory location; mailbox addresses; multiprocessor systems; performance evaluation

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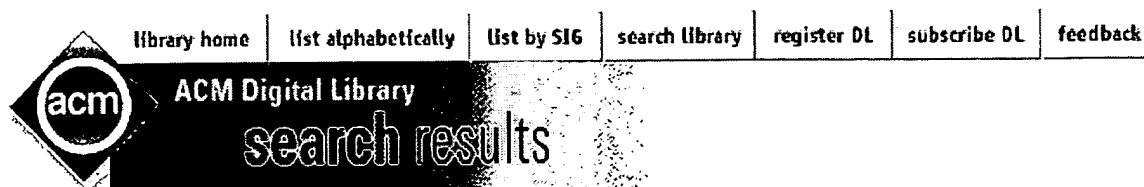
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